

REMARKS

Entry of this amendment and reconsideration and allowance of this application are respectfully requested.

One paragraph of the SUMMARY portion of the specification is amended for clarity. The changes are supported by the originally filed specification including drawings. An annotated copy of Figure 1 appears below for the Examiner's easy reference.

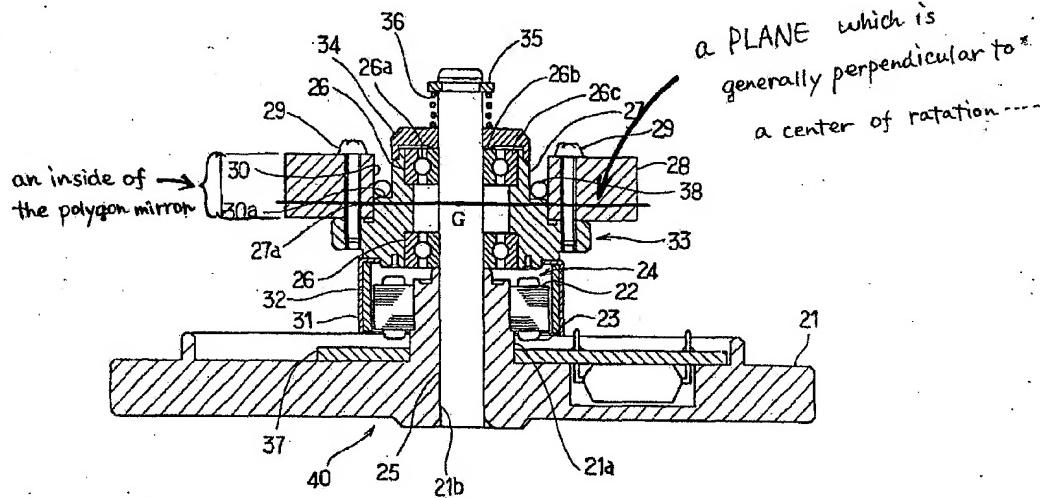


FIG. 1

The prior art grounds of rejection are respectfully traversed.

Amended claim 1 defines a light deflecting electric motor comprising a stator assembly including a base, a fixed shaft fixed to the base and a stator mounted on the base, a rotor assembly including a rotating member rotatably mounted on a plurality of bearings further mounted on the fixed shaft, a polygon mirror mounted on the rotating member and having an outer circumferential surface and a rotor mounted on the rotating member, the rotor assembly having a center of gravity located between the bearings. The rotor assembly is disposed so that a plane which is generally perpendicular to a center of rotation of the rotor assembly and passes the center of gravity of the rotor assembly passes an inside of the polygon mirror, and a balancing plane provided in the vicinity of the plane.

Generally, for light deflecting electric motors, a ratio of the weight of a polygon mirror to the weight of a rotor assembly is high. The center of gravity of the rotor assembly depends upon a location of the polygon mirror. When the center of gravity of the rotor assembly is located axially away from the polygon mirror, a counterweight needs to be provided that is axially opposed to the polygon mirror with the center of gravity being located therebetween so that the overall rotor assembly is well balanced.

Balancing can be carried out easier when the rotor assembly is disposed so that a plane which is generally perpendicular to a center of rotation of the rotor assembly and passes the center of gravity of the rotor assembly also passes an inside of the polygon mirror, as recited in amended claim 1. Since a balancing plane is provided axially in the vicinity of the center of gravity, occurrence of gyroscopic moment due to high speed rotation of the rotor can be prevented even if execution of balancing results in unbalance in the weight on the balancing plane.

Kunii discloses an optical scanner comprising a rotor assembly including a rotating shaft member 20, rotor member 25 and polygon mirror 11, and a balancing groove 26 provided on an upper surface of the rotor member 25. The balancing groove 26 has a bottom corresponding to the balancing surface and located on a plane perpendicular to the center of rotation of the rotor assembly.

The rotor assembly can be balanced by mounting a counterweight 27 to the groove 26. Accordingly, when the counterweight 27 mounted to the groove 26 is adjusted, the center of gravity can be located between bearings 19 and 19a as taught by Tada. However, the polygon mirror 11 is axially away from the balancing plane in Kunii. Accordingly, even when balancing is carried out so that the center of gravity is located between the bearings 19 and 19a, a plane which is generally perpendicular to a center of rotation of the rotor assembly and passes the center of gravity of the rotor assembly does not pass an inside of the polygon mirror 11, nor the balancing plane is located in the vicinity of the plane.

As should be apparent from the foregoing, even the combination of Kunii with Tada would not suggest our claim 1 invention wherein the plane which is generally perpendicular to a center of rotation of the rotor assembly and passes the center of gravity of the rotor assembly passes an inside of the polygon mirror, and the balancing plane is provided in the vicinity of the plane. Therefore, claim 1 is believed to be allowable.

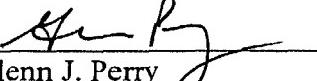
Claims 2 to 18 depend directly or indirectly from claim 1 and thus should also be allowable.

In view of the foregoing, the claims are now believed to be in form for allowance, and such action is hereby solicited. If any point remains in issue which the Examiner feels may be best resolved through a personal or telephone interview, please contact the undersigned at the telephone number listed below.

Attached is a marked-up version of the changes made to the specification and claims by the current amendment. The attached Appendix is captioned "Version with markings to show changes made".

All objections and rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited.

Respectfully submitted,
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Enclosure: Appendix